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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,164	07/11/2003	Bong-Hyun Kwon	HLE-0002	4358

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EXAMINER

MACKEY, JAMES P

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,164

Applicant(s)

KWON ET AL.

Examiner

James Mackey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-12 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-12 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06 March 2006 has been entered.
2. Claim 20 is objected to because of the following informalities: the claim does not end in a period. Appropriate correction is required.
3. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 21 merely states the product that is produced in the claimed apparatus, which does not recite a structural limitation of the apparatus and therefore does not further limit the subject matter of apparatus claim 1. Note that purpose to which apparatus is to be put and expression relating apparatus to contents thereof during intended operation are not significant in determining patentability of an apparatus claim, *Ex parte Thibault*, 164 USPQ 666.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-5, 7-12 and 19-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

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relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The original specification **does not adequately describe** the temperature of the upper and lower horizontal heating plates “being same at their entire section” as is now claimed in claim 1. On page 17 of the original specification, lines 17-19 disclose “the temperatures of the upper and lower horizontal heating plates 10 and 11 were both 70°C”; however, such does not adequately disclose the temperature of the upper and lower horizontal heating plates “being same at their entire section” as is now claimed in claim 1. Claims 2-5, 7-12 and 19-21 are rejected due to their dependence on independent claim 1.

Moreover, the original specification **does not adequately describe** the gap between the upper and lower horizontal heating plates being “constant in a horizontal direction” as is claimed in new claim 19. The original specification is silent with regards to the gap between the heating plates being constant. Applicant relies upon Figure 3 for support for this newly claimed limitation; however, Figure 3 does not provide clear and unambiguous support for the gap between the heating plates being constant as is now claimed in claim 19.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-5, 7-12 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 8-9, “their entire section” lacks proper antecedent basis in the claim, and “a temperature of the upper and lower horizontal heating plates being same at their entire

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section” is indefinite as to exactly what is intended by “their entire section”, and indefinite as to where the “entire section” is located in the heating plates. Claims 2-5, 7-12 and 19-21 are indefinite due to their dependence on indefinite claim 1.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 5, 7-12 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Junker et al. (U.S. Patent 3,422,178; Figs. 1-10; col. 4, lines 7-30 and 56, col. 5, lines 1-36,

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col. 7, lines 49-52, and col. 11, line 62) in view of either Toyooka et al. (U.S. Patent 4,254,074; Figs. 1-5) or Japanese Patent Document 10-217264 (Figs. 1-2).

Junker et al. teach a continuous molding apparatus substantially as claimed, comprising upper and lower heating plates 50 (which may be horizontally oriented, see col. 4, line 56 and col. 11, line 62) including heating means comprising circulating fluid channels or electric heating elements (col. 5, lines 15-17), two spaced tubular rubber gaskets 41 (col. 7, lines 49-52) disposed at the edges of upper and lower belts 16 to define a continuous molding cavity therebetween, a raw material feed tank 22, 25 for feeding polymeric material into the continuous molding cavity, with means 26 for preventing the feed material from flowing past the gaskets, and means 52 for adjusting the spacing between the heating plates, wherein the gap between the heating plates may be constant (col. 4, lines 23-25, disclosing a “uniform” contour along the length of the casting region). Junker et al. explicitly disclose that the casting region may be “maintained at a uniform temperature” (col. 5, lines 21-22), and further explicitly disclose the use of “temperature control” (col. 5, line 29). It is also clear that Junker et al. disclose that the same type of heating means are provided for the upper and lower heating plates, and therefore the heating is “by a same heat transmission manner”; furthermore, regardless of the type of heating means utilized, the “heat transmission manner” of transferring heat from the heating plates to the raw material being molded would be the same (e.g., conduction), thus reading on the claimed recitation of “by a same heat transmission manner”.

Junker et al. do not disclose upper and lower carrier films (to the extent that such carrier films define over belts 16 disclosed in Junker et al.). Each of Toyooka et al. and Japan ‘264 disclose a continuous molding apparatus including upper and lower carrier films (F, F’ in

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Toyooka et al.; 3, 4 in Japan '264) cooperating with gaskets (7 in Toyooka et al.; 15 in Japan '264) to define a continuous molding cavity, a raw material feeder for feeding polymeric material into the continuous molding cavity, and a downstream heating means for heating the polymeric material. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Junker et al. by providing upper and lower carrier films, as disclosed in either Toyooka et al. or Japan '264, in order to provide a desired surfacing to the polymeric material, and to minimize fouling of the belts. It would have been further obvious and well within the level of skill of an ordinary artisan to provide gasket dimensions and gasket spacing within the claimed ranges (claims 8 and 10) in order to mold a product of the desired dimensions. Moreover, it would have been obvious to a skilled artisan to have utilized a carrier film material and thickness as claimed (claims 11, 12 and 20) in order to provide compatibility with the molding material and to provide a durable yet lightweight film material, as is conventional in the molding art (especially considering the disclosure of Toyooka et al. at col. 6, lines 9-16 and 27-32 that the same polyester film of the same 50 μ m thickness was utilized with upper and lower feeders 251, 251', and the disclosure of Japan '264 at paragraphs 12 and 30 that both films 3, 4 are made of the same polyvinyl alcohol polymeric material). The apparatus disclosed in Junker et al. (as well as the apparatus of Toyooka et al. and Japan '264) is capable of being used to form an acrylic artificial marble plate (claim 21); note that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations, *Ex parte Masham*, 2 USPQ2d 1647.

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12. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Junker et al. in view of either Toyooka et al. or Japan '264, as applied to claims 1, 5, 7-12 and 19-21 above, and further in view of Yukawa et al. (U.S. Patent 5,658,508).

Junker et al. do not disclose a gasket-protecting film surrounding the gaskets, with gasket fixing members and a gasket fixing frame (claim 2), nor a carrier film fixture (claims 3-4). Yukawa et al. disclose a continuous molding apparatus including upper and lower carrier films 20, 21 cooperating with gaskets 40, 41 to define a continuous molding cavity therebetween, with films 42, 43 surrounding the gaskets and gasket fixing members 44, 45 cooperating with a gasket fixing frame for fixing the gaskets, the fixing members also comprising a carrier film fixture for fixing the carrier films and including pins driven to circulate with the molding material (col. 7, lines 17-39). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Junker et al. by providing a gasket-protecting film with gasket fixing members, and a carrier film fixture, as disclosed in Yukawa et al., in order to minimize fouling of the gaskets and to fix the carrier films together as well as to the gasket-protecting film for joint circulation movement with the molding material. It would have been further obvious to a skilled artisan to provide unwinders and winders for the carrier films as is conventional in the molding art in order to facilitate the re-use of the carrier films, obvious to provide the means for adjusting the spacing of the heating plates as movable cylinders, since such are recognized equivalent means to the screw means 52 disclosed in Junker et al., and obvious to provide a conventional downstream cutting unit for cutting the continuous molded plate into sections (especially considering that Junker et al. discloses "post-treatment" at col. 7, line 71).

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13. Applicant's arguments filed 06 March 2006 have been fully considered but they are not persuasive.

Applicant argues that Junker et al. do not disclose the temperature of the upper and lower horizontal heating plates “being same at their entire section”; however, Junker et al. explicitly disclose that “within the platens is a chamber 55 which can be used for circulation of heating or cooling liquids” (col. 4, lines 26-27), and “[t]he number of heating and cooling zones can also be modified” (col. 5, lines 18-19) to include a “preferred” casting region having at least two temperature zones (col. 5, lines 19-21), but “a casting region maintained at a uniform temperature is also included within the scope of the present invention” (col. 5, lines 21-23). Therefore, a “same” or uniform temperature of the upper and lower heating plates is within the purview of the teachings of Junker et al. Furthermore, the Examiner considers the apparatus disclosed in Junker et al. to be capable of being used to apply a selected temperature within a wide range of temperatures, dependent only on the intended use of the apparatus; note that intended use has been continuously held not to be germane to determining the patentability of the apparatus, *In re Finsterwalder*, 168 USPQ 530; the manner or method in which a machine is to be utilized is not germane to the issue of patentability of the machine itself, *In re Casey*, 152 USPQ 235.

Applicant attempts to draw a distinction between the “casting region 18” of Junker et al. and other regions along the length of the platens disclosed in Junker et al.; however, the disclosure of Junker et al. does not support such a distinction (note col. 3, lines 44-45, defining the mold cavity 18 as extending “between the two sets of drums 15, 85”). Moreover, Junker et al. disclose plural pairs of upper and lower platens 50 extending along the length of opposed

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frames 11, 12 between the drums 15, 85 (as clearly shown in Figure 2; see also col. 5, lines 1-14, and col. 8, line 41), such that even if only a portion of the length of the mold cavity 18 were considered to be the casting region having a uniform temperature, the upper and lower platens 50 in such a shortened casting region would read on the claimed upper and lower horizontal heating plates (since the claims do not preclude additional upper and lower plates).

Applicant argues that Junker et al. do not disclose a constant gap between the upper and lower horizontal heating plates; however, such is explicitly taught at col. 4, lines 23-25; moreover, a constant mold gap is suggested by Toyooka et al. and Japan '264. Furthermore, it is clear that the adjusting means 52 are capable of varying the contour of the mold cavity within a wide range of contours (note col. 4, lines 72-75, and col. 7, lines 34-46), such that the apparatus of Junker et al. is capable of being provided with a constant, uniform gap between the upper and lower plates.

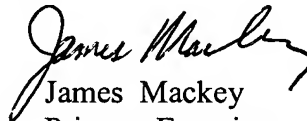
Applicant argues that neither Toyooka et al. nor Japan '264 suggests that "each of the upper and lower carrier films has a same thickness and is made of a same polymeric material"; the Examiner disagrees, since the selection of film material and thickness would have been within the level of ordinary skill in the art in order to provide compatibility with the molding material and to provide a durable yet lightweight film material. Moreover, Toyooka et al. disclose that the same polyester material is used for both films F, F' and have the same thickness of 50 μm (see col. 6, lines 9-16 and 27-32; col. 7, lines 18-19); Japan '264 disclose both films 3, 4 made of the same polyvinyl alcohol polymeric material (see paragraphs 12 and 30).

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mackey whose telephone number is 571-272-1135. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


James Mackey
Primary Examiner
Art Unit 1722

3/9/06

jpm
March 9, 2006